April 1989

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

CERTIFICATION 1

CERTIFICATION OF SEDIMENT CONTROL SYSTEM CONSTRUCTION

Permitee's Name Bennoc, Inc. Permit D-1159

Complete both certification statements listed below.

A. I, the undersigned, a surveyor or engineer registered in the State of Ohio , hereby certify that the measurements of the constructed sediment control system described below conform to the measurements contained in the approved ~~original~~/ "as built"* (specify one) design plan.

STATE OF OHIO ★ DONALD M. BRAFFORD E-29449 ★ REGISTERED PROFESSIONAL ENGINEER

Donald M Brafford P.E. 7-1-98
Signature Title (engineer/surveyor) Date

I, the undersigned, an engineer registered in the State of Ohio, hereby certify that the sediment control system described below has been constructed per the approved ~~original~~./ "as built"* (specify one) design specifications and criteria and that:

1. the embankment foundation area was cleared of all organic matter and the entire foundation surface scarified;

2. the fill material was free of sod, large roots, other large vegetative matter, frozen soil, and coal processing waste; and

the fill was brought up in horizontal layers of such thickness as required to facilitate compaction in accordance with prudent construction standards.

STATE OF OHIO ★ DONALD M. BRAFFORD E-29449 ★ REGISTERED PROFESSIONAL ENGINEER

ENGINEER'S SEAL Donald M Brafford 7-1-98
Signature Date

*If "as built," then "as built" plan must be attached to this certification.

This sediment control system consists of:

Sediment ponds no. 001 , _____ , _____ , _____
Diversions (describe in relation to pond numbers).

Other control methods (describe if different from permit descriptions)

9-88

ONIO DEPARTMENT OF NATURAL RESOURCES
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ATTACHMENT 20
(SEDIMENTATION POND/IMPOUNDMENT DATA SHEET)

Applicant's Name BENNOC, INC. Pond # AS-BUILT 001

Type of impoundment EXCAVATED Permanent X Temporary _____

1. POND DRAINAGE AREA DATA:

a) Drainage area 45.5 acres
b) Disturbed area 41.5 acres
c) Ave. land slope 15% %
d) Hydrologic soil group B&C
e) Hydraulic length 1800 ft.
f) Cover/condition of the undisturbed area WOODS/FAIR

2. DESIGN STORM CRITERIA:

a) Method:

1) Design method (s) including computer programs: SEDCAD +

2) SCS curve number 80

b) Rainfall Amount/Peak Flow	Rainfall, in.	Peak flow, cfs.
1) 10 year, 24 hour =	3.7	71
2) 25 year, 24 hour =	4.3	90
3) 50 year, 6 hour = (if permanent)		
4) 100 year, 6 hour = (if 20/20 size)		

3. POND SIZE:

a) Dimensions: N/A

1) Dam height _____ ft.
2) Dam width _____ ft.(MIN)
3) Dam length _____ ft.
4) Dam downstream slope _____% (MAX)
5) Dam upstream slope _____ % (MAX)
6) Core length _____ ft. _____ ft. ____ ft.

b) Sediment storage volume 4.2 ac. ft. is provided below the 101.0 foot elevation.

c) Stage/Area Data:	Elevation ft.	Surface Area ac.	Volume ac.ft.
1) Bottom of pond	90.0	0	0
2) Streambed at upstream toe:	N/A	N/A	N/A
3) Principal spillway inlet:	N/A	N/A	N/A
4) Exit Channel Crest:	101.0	0.58	4.2
5) Top of embankment:	104.0	0.67	6.1

AEC 16842

AS-BUILT
POND 001
BENNOC, INC.
D-1159

PRINCIPAL SPILLWAY: N/A

a) Pipe length _____ ft.
b) Pipe diameter _____ in.
c) Pipe slope _____ %
d) Riser diameter _____ in.
e) Riser height _____ ft.
f) Type of pipe _____
g) Number of anti-seep collars _____, spacing along pipe _____ ft.
h) Does the design include a trash rack? _____ Yes, _____ No.
i) Does the design include an anti-vortex device? _____ Yes, _____ No.

5. EMERGENCY SPILLWAY/EXIT CHANNEL:

a) Base width 14 ft.
b) Design flow depth 0.7 ft. Depth in level section 1.9 ft.
c) Exit slope 1.5 %
d) Exit velocity 8 fps
e) Channel lining NATURAL ROCK SURFACE
f) Side slopes 1:1 & 1.5:1
g) Freeboard 1.1 ft.
h) Entrance slope 50 %
i) Length of level section 20 ft.

6. The minimum static factor of safety for this impoundment is 1.5

7. Provide as an addendum to this attachment a detailed plan view or 2 cross sections of the impoundment.

8. COMMENTS ELEVATIONS ARE BASED ON ASSUMED DATUM.

9. Is this an MSHA structure? _____Yes, X No. If "yes," provide the MSHA ID. number if one has been assigned _____.

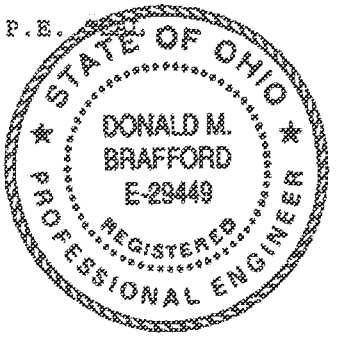
10. If this is to be retained as a permanent impoundment, submit an addendum to this attachment demonstrating compliance with rule 1501:13-9-04(K) (2) of the Administrative Code.

11. I hereby certify that this impoundment is designed to comply with the applicable requirements of rule 1501:13-9-04 of the Administrative Code using current, prudent engineering practices.

Donald M Brafford
Signature

7-1-98
Date

P.E.



ADDENDUM TO ATTACHMENT 20, ITEM 10, POND 001
BENNOC, INC.

PERMANENT POND 001

RULE 1501:13-9-04(H)(2)

a) AS SHOWN ON THE APPLICATION MAP, THE SIZE AND CONFIGURATION OF POND 001 IS ADEQUATE FOR ITS INTENDED PURPOSE.

b) EVALUATION OF PRE-MINING WATER QUALITY AS SHOWN ON THE ATTACHMENT 14A'S AND OVERBURDEN CHARACTERISTICS SHOWN ON THE ATTACHMENT 12'S DEMONSTRATE THAT WATER QUALITY WILL NOT BE DEGRADED BY THIS PERMANENT IMPOUNDMENT. MONTHLY MONITORING OF THE POND'S DISCHARGE DURING THE LIFE OF THE PERMIT WILL FURTHER DEMONSTRATE THAT WATER QUALITY WILL BE SUITABLE FOR THE PROPOSED POST-MINING LAND USE AND THAT IT WILL MEET EFFLUENT LIMITATIONS ESTABLISHED PURSUANT TO APPLICABLE STATE AND FEDERAL STANDARDS.

c) THE RATIO OF THE WATERSHED AREA TO THE POND AREA AT NORMAL POOL LEVEL WILL PROVIDE A STABLE WATER LEVEL CAPABLE OF SUPPORTING THE POST MINING LAND USE.

d) FINAL GRADING WILL PROVIDE SAFE AND ADEQUATE ACCESS TO THE WATER IMPOUNDMENT.

e) POND 001 WILL BE MONITORED AS REQUIRED AND TREATED IF NECESSARY PRIOR TO DISCHARGE, THEREFORE DIMINUTION OF THE QUALITY OF THE WATER UTILIZED BY SURROUNDING LANDOWNERS SHOULD NOT OCCUR. BASED ON THE SIZE AND CHARACTERISTICS OF THE CONTRIBUTING WATERSHED, DIMINUTION OF WATER QUANTITY SHOULD NOT OCCUR.

f) SINCE THE IMPOUNDMENT WILL BE USED FOR AGRICULTURAL PURPOSES IT WILL BE SUITABLE FOR THE POST MINING LAND USE. IT WILL ALSO CREATE A HABITAT FOR FISH AND WILDLIFE.

g) THERE WILL BE NO HIGHWALLS WITHIN THE LIMITS OF THE IMPOUNDMENT.

h) THERE WILL BE NO REDUCED HIGHWALL FACES WITHIN THE LIMITS OF THE IMPOUNDMENT.